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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,826

01/03/2007

Yoshihisa Doi

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06/01/2009

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EXAMINER

JENNINGS, STEPHANIE M

ART UNIT

PAPER NUMBER

3725

MAIL DATE

DELIVERY MODE

06/01/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,826	<b>Applicant(s)</b> DOI ET AL.	
	<b>Examiner</b> Stephanie Jennings	<b>Art Unit</b> 3725	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20090408</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments in regard to the drawing objections, see page 1, paragraphs 3-4, filed February 23, 2009, with respect to the drawing objections have been fully considered and are persuasive. The objection of November 25, 2008 has been withdrawn.
2. Applicant's arguments in regard to the 35 USC 112 rejection of claim 3, see page 1, paragraph 5, filed February 23, 2009, with respect to claim 3 have been fully considered and are persuasive. The rejection of November 25, 2008 has been withdrawn.
3. Applicant's arguments with respect to the 35 USC 112 rejection of claim 10 have been considered but are moot in view of cancellation of the claim.

### ***Specification***

4. Amendments to the specification have been reviewed and accepted as being in compliance

### ***Drawings***

5. The drawings were received on February 23, 2009. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 3725

7. Claims 1, 3, 7, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami, et al. US Patent No. 3,841,126 in view of Poret US Patent No. 4,230,270.

8. Limitations from claim 1, a forging method including a plurality of press operations to form a product, the method comprising: spraying (34.1, 34.2, 34.3) a workpiece (1) with lubricant (9) more than once (figure 3 above, column 6, lines 16-38), said workpiece (1) already having been heated due to a machine related earlier press operation prior to a press-step operation of forming the workpiece is conducted, at least one of the spraying with lubricant operations being conducted when the lubricant sprayed in a preceding spraying operation has been dried; and after the lubricant sprayed in a final spraying of said workpiece has been dried, forming the workpiece via said press operation (column 7, line 63-column 8, line 3).

9. Minami teaches a forging method with lubrication, but does not teach such a method with

10. Wherein Poret teaches:

11. Limitations from claims 1 and 7, at least one of the spraying with lubricant operations being conducted when the lubricant sprayed in a preceding spraying operation has been dried; and wherein lubricant is sprayed from the plurality of nozzles in different directions, and the nozzles spray the lubricant in a sequential fashion, and after the lubricant sprayed from the plurality of nozzles has been dried, more lubricant is again sprayed from the nozzles or after the lubricant sprayed from one of the nozzles has been dried, more lubricant is again sprayed from another of the nozzles (column 1, lines 21-41).

Art Unit: 3725

12. Limitations from claim 3, a forging method as recited in claim 1, wherein a temperature of the workpiece (1) ranges from 150 to 250 °C due to forming heat when the workpiece (1) is sprayed with lubricant (column 1, lines 54-58).
13. Limitations from claim 7, a forging apparatus, comprising: an extruding apparatus (7, 10) that comprises a plurality of press stages, wherein a workpiece (1) is successively transferred to the plurality of press stages of the extruding apparatus; and a conveying unit for successively transferring the workpiece comprises a plurality of nozzles for spraying the workpiece with lubricant, wherein the workpiece and the plurality of nozzles are located in fixed relative positions with respect to each other in spraying the workpiece with the lubricant, and wherein lubricant is sprayed from the plurality of nozzles in different directions (figure 3, column 6, lines 16-38 and column 7, line 63-column 8, line 3).
14. Limitations from claim 8, a forging apparatus as recited in claim 7, wherein the spraying with lubricant is conducted intermittently (column 7, line 63-column 8, line 3).
15. Limitations from claim 12, a forging apparatus as recited in claim 7, wherein a temperature of the workpiece (1) ranges from 150 to 250 °C due to forming heat when the workpiece (1) is sprayed with lubricant (column 1, lines 54-58).
16. It would have been obvious to one of ordinary skill in the art to combine Poret's and Minami's inventions because Poret's multinozzle apparatus allows for adjustable spraying configurations.

Art Unit: 3725

17. Claims 2, 5-6, 11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami and Poret as applied to claims 1 and 7 above, and further in view of Nagao et al. US Publication No. 2003/0213277 A1.

18. Minami teaches a method of lubricating a forging apparatus, but Minami's invention does not teach use of the apparatus with a constant-velocity universal joint outer race, a cup-shaped or shaft-shaped product.

19. Limitations from claim 2, a forging method as recited in ~~claim~~ 1, wherein the workpiece is a constant-velocity universal joint outer race (page 1, paragraph 11).

20. Limitations from claim 5, a forging method ~~as~~-recited in claim 1, wherein the formed product is cup-shaped (8, figure 39) (page 1, paragraph 11 and page 2, paragraph 20).

21. Limitations from claim 6, a forging method ~~as~~-recited ~~in~~ claim 1, wherein the formed product is shaft-shaped (8, figure 39) (page 1, paragraph 11).

22. Limitations from claim 11, a forging apparatus as recited in claim 7, wherein the workpiece is a constant-velocity universal joint outer race (page 1, paragraph 11)..

23. Limitations from claim 14, a forging apparatus as recited in claim 7, wherein the formed product is cup-shaped (8, figure 39) (page 1, paragraph 11 and page 2, paragraph 20).

24. Limitations from claim 15, a forging apparatus as ~~defined~~-recited in claim 7, wherein the formed product is shaft-shaped (8, figure 39 above) (page 1, paragraph 11).

25. It would have been obvious at the time of invention to one of ordinary skill in the art to combine Minami's invention and Nagao's invention because a cup- or shaft-shaped

Art Unit: 3725

constant-velocity universal outer race is a common product formed by forging presses and well-known in the art.

26. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami as applied to claims 1 and 7 above, and further in view of Graham US Patent No. 5,493,886.

27. Graham teaches the use of differing lubricants for use before and after forging in limitations from claims 4 and 13.

28. Limitations from claim 4, a forging method as recited in claim 1, wherein the lubricant (24, figure 1 above) before a forging procedure (12) is a water-dispersive lubricant containing a solid lubricant agent, a lubricative and dispersive adherent agent and a wetting and vaporizing accelerating agent, and the lubricant (24) during the forging procedure is a solid lubricant agent (column 3, lines 53-column 4, line 5 and column 4, lines 20-31).

29. Limitations from claim 13, a forging apparatus as recited in claim 7, wherein the lubricant (24) before a forging procedure (12) is a water-dispersive lubricant containing a solid lubricant agent, a lubricative and dispersive adherent agent, and a wetting and vaporizing accelerating agent, and the lubricant (24) during the forging procedure is a solid lubricant agent ((column 3, lines 53-column 4, line 5 and column 4, lines 20-31).

30. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Graham's invention with Minami's invention because the use the two types of lubricant allows for increased usability of the forging press as the different lubricants allow for different workpieces to be formed in the forging press.

***Conclusion***

31. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie Jennings whose telephone number is (571) 270-7392. The examiner can normally be reached on Monday-Thursday, 7 am - 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J./  
Examiner, Art Unit 3725  
May 27, 2009

/Dana Ross/  
Supervisory Patent Examiner, Art Unit  
3725